

**APPENDIX I**  
**ENVIRONMENTAL EVALUATION –**  
**STADIUM PARKING**

# **Environmental Evaluation – Stadium Parking Rentschler Field Redevelopment Project East Hartford, Connecticut**

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## **Introduction**

Mr. Phillip McLellan of the State of Connecticut Office of Policy and Management (OPM) requested Metcalf & Eddy, Inc. (M&E) review available environmental information for several areas possibly to be utilized for stadium parking associated with the Rentschler Field Redevelopment Project in East Hartford, Connecticut (Figure 1 – Site Location Map). M&E understands a total of seven areas are proposed and that a significant amount of information has been compiled in support of M&E's June 2006 Phase I Environmental Site Assessment (ESA) for Rentschler Field and M&E's June 2006 Corridor Land Use Evaluation. Based on our review of this information, we have summarized the environmental conditions for each of the seven proposed parking areas. The attached Table 1 summarizes the documents that were reviewed. Figure 2 is a Site Plan of the Rentschler Field property that shows the proposed stadium parking areas and other relevant environmental information from the M&E Phase I ESA.

The objective of this evaluation was to review available information to determine if areas of environmental concern (AOCs) exist within potential stadium parking areas. If AOCs are present, then the potential for these AOCs to affect the construction or use of the area for stadium parking was assessed. This evaluation was performed based on previously compiled information provided by others and is subject to the attached Statement of Limitations.

M&E reviewed a number of environmental reports which included text portions and maps/site plans, but no raw or tabulated laboratory data. M&E's summary and recommendations are based on a review of text portions and maps/plans presented in the individual reports listed on the attached table. M&E did not attempt to verify statements or the findings presented in the reports. The majority of the investigations were conducted by Loureiro Engineering Associates (LEA) in 1996-1997. As a number of the LEA reports are summaries and are not dated, effort was taken to establish the most recent environmental conditions in each of the parking areas. Additionally, LEA referenced a number of pre-1996 investigations, which were conducted by others. In most cases, M&E's document review could not verify that recommendations for remediation that were presented during 1996-1997 and before were acted upon later.

## **Summary of Findings**

### **Parking Area 1**

Pratt and Whitney (P&W) Recreational Field Area, located north of the existing athletic stadium, across Silver Lane.

#### *Description*

Identified by East Hartford's Tax Assessor's Office as Map 34 (updated in 1997), Lots 44 and 37.



### *Land Use*

Parking Area 1 is open space, utilized for recreational activities.

### *Areas of Environmental Concern*

No AOCs were identified within Parking Area 1. The M&E Corridor Land Use Study research indicates the property has remained recreational-open space since 1965.

### *Recommended Actions*

No reports or studies specific to the environmental conditions of this area were available for review. M&E's review of other available information did not reveal evidence of documented environmental concerns. However, if a more rigorous level of pre-construction screening is desired, then OPM may wish to consider a limited subsurface investigation in the proposed parking area prior to construction to characterize the environmental quality of any affected media. The depth to which soil (and potentially groundwater) sampling would occur would be contingent upon the depth of any proposed parking excavations (utilities, storm water drainage).

## **Parking Area 2**

Rentschler Field Open Space, located northwest of the existing athletic stadium, adjacent to existing storm water basin. This area appears to be located north of Willow Brook and corresponds generally to the former Silver Lane Pickle Company location, which is considered part of North Airport.

### *Description*

Identified by East Hartford's Tax Assessor's Office as Map 34 (updated in 1997), Lots 129 and 130.

### *Land Use*

Parking Area 2 is located in the vicinity of the former Silver Lane Pickle Company. According to LEA, the property was sold to United Aircraft in 1954 and 1963 and the site buildings were demolished at that time. The property has remained undeveloped since the time the buildings were demolished (1965). LEA states that piles of rubble along the western boundary of the former Silver Lane Pickle Company property are thought to be related to the demolition of site buildings. A Ground Penetrating Radar (GPR) Survey performed by LEA in 1993 did not identify any USTs.

### *Areas of Environmental Concern*

Remediation Standard Regulations (RSRs) exceedances were noted in soil and groundwater within Parking Area 2. Constituents of Concern (COCs) include volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH) and metals.

- Marin Environmental (May and July, 2000) indicates that former underground storage tanks (USTs) may have affected environmental conditions in this area, and that

impacted groundwater could be encountered during construction activities. Additionally, arsenic, lead and total petroleum hydrocarbons (TPH) were detected in the soils above the RSR criteria and are attributed to the former USTs and historic filling of low-lying areas with debris.

LEA indicates arsenic and lead were detected in soil samples collected in the vicinity of the rubble piles and former USTs.

- Arsenic was detected in three samples at 2-4 feet below grade at concentrations which exceed the 10 mg/kg Residential Direct Exposure Criteria (RDEC). The maximum arsenic concentration detected was 37.2 mg/kg.
- Lead was detected in two samples at 2-4 feet below grade at concentrations which exceed the 500 mg/kg RDEC. The maximum lead concentration detected was 5,020 mg/kg.
- Total Petroleum Hydrocarbons (TPH) was detected in four soil samples at 2-4 feet below grade at concentrations which exceed the 500 mg/kg RDEC. Three samples from 2-4 feet exceeded the 2,500 mg/kg Pollutant Mobility Criteria for GB classified groundwater areas (GBPMC).
- Ethylbenzene and xylenes were detected in one sample at 2-4 feet at concentrations which exceed their respective (GBPMC).
- LEA estimated that approximately 890 cubic yards of contaminated soil would require remediation in five areas. A LEA Klondike Soil Removal Project Specifications (March 1998) document depicts the areas to be remediated
- A soil remediation report summarizing remedial activities at the Former Silver Lane Pickle Factory was unavailable for review. Based on LEA's reference to soil remediation in the Former Silver Lane Pickle Factory area, it appears that contamination was present and has been addressed. However, detailed remediation documentation was not available for review, such as soil disposal manifests and confirmatory soil sampling data which would indicate the nature and extent of contaminated soil removed.

#### *Recommended Actions*

Obtain and review remediation reports and other supporting documentation to determine the current status of remediation in this area. This additional information would allow for a more up-to-date evaluation of the current environmental status of this area with respect to potential parking area construction activities.

### **Parking Area 3**

Rentschler Field entrance and open space, located north of the athletic stadium.

#### *Description*

Identified by the East Hartford Tax Assessor's Office as Map 34 (updated in 1997), Lots 116, 121, 122, 123, 124, 125 and 127.

### *Land Use*

This area is mostly an undeveloped, open field. A portion of this area is paved and is used as the access driveway for the athletic stadium. The driveway is located directly across from (south of) Simmons Road. The grassy area to the west of the driveway may be used for parking during stadium events.

A review of historic aerial photographs indicates residences were present along Silver Lane in this area from the 1950s to the early 1990s. M&E's Corridor Land Use Study classified this area as a low risk land use. No information was available pertaining to former residences.

### *Areas of Environmental Concern*

No specific AOCs were identified with respect to Parking Area 3. Marin Environmental Inc. (Marin) collected one groundwater sample (NA-MW-01) from the southwestern corner of Parking Area 3 in June 2000. No VOCs, Semi-VOCs, PCBs, ETPH, pesticides, herbicides or metals were reported in the groundwater sample collected.

### *Recommended Actions*

Since the boundary of this area is beyond the extent of any previous subsurface investigation performed on the Rentschler Field property, no recommendations have historically been made by others. M&E's review of available information did not reveal evidence of documented environmental concerns. However, if a more rigorous level of pre-construction screening is desired, then OPM may wish to consider a limited subsurface investigation in the proposed parking area prior to construction to characterize the environmental quality of any affected media. The depth to which soil (and potentially groundwater) sampling would occur would be contingent upon the depth of any proposed parking excavations (utilities, storm water drainage).

## **Parking Area 4**

Rentschler Field Open Space, located west of the existing football stadium and east of the active UTC Research Center (UTRC).

### *Description*

Identified by the East Hartford Tax Assessor's Office as Map 34 (updated in 1997), Lot 125.

### *Land Use*

This area is primarily an open grassy area, located east of the active UTRC facilities and west of the stadium property. Limited information is available pertaining to environmental conditions in this area.

Based on aerial photographs, no structures or paving have been present in Parking Area 4. On the 1965 aerial photograph, several faint inconsistencies can be seen scattered throughout this

area. The inconsistencies appear to be in the shape of a softball or baseball diamond. No information is available pertaining to specific uses in this area during that time (circa 1960).

Parking Area 4 is located on the eastern side of the active UTRC complex. Based on M&E's Phase I ESA findings, the UTRC complex was reported on several state and federal environmental databases, including the Facility Index System (FINDS), Site Discovery and Assessment Database (SDADB), RCRA large quantity generator (LQG) of hazardous waste, a RCRA Treatment, Storage and Disposal Facility (TSDF) and Material Licensing and Tracking System (MLTS) databases. Several spills and underground storage tanks (USTs) (leaking and registered) were also reported at UTRC.

#### *Areas of Environmental Concern*

No specific AOCs were identified with respect to Parking Area 4. Limited previous environmental work has been performed by others in this area.

- According to figures prepared by Marin (2000), a portion of a former army barracks septic system is shown on the eastern-central border of this area. The former septic area appears to encroach onto Parking Area 4.
- Marin installed a test pit (TP-9) and monitoring well (MW-LF-1) adjacent to Parking Area 4 along the western border of the stadium parcel in May 2000. No VOC, SVOCs, TPH or PCBs were reported in soil samples collected in this area. Trace concentrations of various metals, including arsenic, copper, nickel and zinc, were reported in soil samples. All metals concentrations reported were below applicable RSR criteria. No impacts to groundwater were reported in this area.

#### *Recommended Actions*

Limited information is available pertaining to soil and groundwater conditions in Parking Area 4. M&E's review of available information did not reveal evidence of documented environmental concerns. However, if a more rigorous level of pre-construction screening is desired, then OPM may wish to consider a limited subsurface investigation in the proposed parking area prior to construction to characterize the environmental quality of any affected media. The depth to which soil (and potentially groundwater) sampling would occur would be contingent upon the depth of any proposed parking excavations (utilities, storm water drainage).

### **Parking Area 5**

Pratt & Whitney storage and training areas.

#### *Description*

Identified by the East Hartford Tax Assessor's Office as Map 34 (updated in 1997), Lot 125.

### *Land Use*

North Klondike area, consisting of nine specific P&W work areas, which were utilized for (former) storage of chemicals, explosives and fuels, fire training and testing of rocket motors.

### *Areas of Environmental Concern*

A number of AOCs were identified within Parking Area 5.

1. Former Test Stand Area (Sub-Area X-401) – Fire Training Area C, Locker Room and dry wells; Fire Training Area C contained flammable and combustibles that were placed in an earthen pit and used in training exercise; the three drywells received waste fluids from the test stand areas. COCs include metals, VOCs, SVOCs, TPH and PCBs.
  - Samples collected in these two areas identified soil polluted with VOCs. TPH was detected in the soil (2-8' below grade) at two locations, and lead (2-8' below grade) at one location at concentrations which exceed the RDEC. Lead and TPH were also detected at concentrations which exceed the GBPMC at two and one location, respectively. No VOCs exceeded RSR soil or groundwater criteria (RDEC, GBPMC, SWPC). TPH was detected in the groundwater, however, no criteria has been established for TPH in GB classified groundwater areas. Metals, including cadmium were detected in the groundwater, but at concentrations which do not exceed the applicable RSR Surface Water Protection Criteria (SWPC).
  - *Summary* - RSR exceedances have been documented in this area and no environmental reports or studies were available for review that describe remedial activities. LEA states that the area has not been adequately characterized.
2. Former PCB Storage Building Area (Sub-Area X-407) – A concrete-floored building used to store and transport PCBs. The building was partially washed and scrubbed during closure. All of the equipment has been removed. COCs include metals, VOCs, SVOCs, TPH and PCBs.
  - According to LEA, Haley and Aldrich (H&A) conducted a subsurface investigation in 1992, and identified soil and groundwater polluted with VOCs and metals. No VOCs exceeded the applicable RSR criteria. Arsenic was detected in the soil at a concentration exceeding the RDEC. LEA concluded that there is evidence that a release has occurred.
  - LEA conducted a subsurface investigation in 1997 and concluded that a release may have occurred. TPH was detected in the soil (2-4' below grade) above the RDEC and several metals (mercury, cadmium and chromium) were detected above background. Arsenic was detected above the RDEC. No RSR exceedances were reported for the groundwater.
  - LEA states that approximately 148 cubic yards of arsenic contaminated soil was remediated and that the area has been adequately characterized. LEA concluded that no further action is required, but also recommended an Environmental Land Use Restriction (ELUR) be placed on the remaining area.

- *Summary* - RSR exceedances have been documented in this area and soil remediation is stated to have occurred. As part of this remediation, an ELUR is proposed for this area.
3. *Former Oil Storage Rack (Sub-Area X-410)* – Storage of containerized oil on an outside rack. COCs include VOCs and TPH. Polluted soil was identified.
- In 1997, LEA performed a subsurface investigation and concluded that a limited VOC release may have occurred but all detected concentrations were below the applicable RSR criteria. LEA estimated approximately 15 cubic yards of soil may need to be remediated.
  - Zinc was detected in the surface water, but at a concentration which is below the aquatic life protection criteria in the CT Water Quality Standards (WQS).
  - *Summary* - Polluted soil was identified but no RSR exceedances were documented. LEA stated that 15 cubic yards of soil may require remediation. LEA states that a limited VOC release may have occurred.
4. *Former Test Stand Areas (Sub-Areas X-415 and X-430)* – Area includes two aboveground storage tanks (ASTs) and a drywell. COCs include VOCs, TPH, SVOCs and metals.
- LEA states that low levels of VOCs were detected in Sub-Area X-415 soil samples.
  - Several SVOCs were detected in the soil in Sub-Area X-430 at concentrations which exceed the applicable RSR criteria. No SVOCs were detected in the soil in Sub-Area X-415.
  - TPH was detected in the soil in both Sub-Area X-415 and X-430 at concentrations which exceed the applicable RSR criteria.
  - Metals were detected in the soil in both areas, but at concentrations below the applicable RSR criteria (RDEC and GBPMC).
  - No PCBs were detected in the soil in these two areas.
  - The VOC Tetrachloroethylene (PCE) was detected in the groundwater in Sub-Area X-430 at concentrations below the applicable RSR criteria (Surface Water Protection Criteria and the Volatilization Criteria). The detected concentrations of PCE (58-68ug/l), although less than the 88ug/l Surface Water Protection Criteria (SWPC), suggest that a release may have occurred in this area. LEA indicates that PCE has been detected in the groundwater at higher concentrations suggesting the possibility of a SWPC exceedance.
  - SVOCs were detected in the groundwater, but at concentrations below the applicable RSR criteria (SWPC).
  - TPH was detected in the groundwater in Sub-Area X-430, however no criteria has been established for TPH in GB classified groundwater areas.
  - The metal arsenic was detected in the X-430 groundwater at concentrations which exceed the SWPC. Copper and lead were detected in the surface water in this area, but below the WQS aquatic life protection criteria.



- Based on the presence of TPH and arsenic and other low levels of COCs in the soil and groundwater, it appears that a release has occurred. LEA estimated that approximately 15 cubic yards of soil was remediated in Sub-Area X-430. No reports were available summarizing remediation of contaminated soil. LEA states that one AST and drywell were removed along with contaminated soil in X-415 and that the X-415 and X-430 areas have been adequately characterized and no further action is warranted.
  - *Summary* - Soil and groundwater RSR exceedances were identified in this area. No environmental reports or studies were available for review that describe remedial activities.
5. Eastern Portion of Tank Farm (Sub-Area X-312/X-314) – It appears that the AOCs identified for this area, including a septic system and a tank farm consisting of five steel USTs, which stored jet fuel for rocket motor testing, are located along the southern portion of Parking Area 5.
- Zinc was detected in the surface water along the southern portion of Parking Area 5 at a concentration which exceeds the aquatic life protection criteria.
  - VOCs, metals and one SVOC compound were detected in the soil at concentrations that are below the applicable RSR criteria.
  - No PCBs were detected in the soil or groundwater.
  - One VOC compound was detected in the groundwater at two locations near the former tank farm area at concentrations below the RSR SWPC.
  - TPH was detected in the soil above the applicable RSR criteria in the septic system area. LEA reports that the septic tank was removed and that the area has been adequately characterized. No further action was recommended by LEA.
  - LEA states that approximately 25 cubic yards of contaminated soil was removed in the tank farm area. LEA recommended an ELUR for the remaining tank farm area.
  - *Summary* – RSR exceedances have been documented and soil remediation has reportedly been performed in this area. An ELUR is proposed for this area.
6. Former Test Stand X-194 – An approximate two acre partially paved area used to test rocket motors. COCs include beryllium, PCBs, VOCs, SVOCs, TPH and metals. One AST is present in this area.
- Elevated concentrations of VOCs detected in groundwater. Metals, including cadmium were detected in the groundwater, but at concentrations which do not exceed the applicable RSR criteria (SWPC).
  - Low levels of beryllium were detected in surface soil samples at concentrations below the applicable RSR criteria.
  - PCBs were detected in surface soils at a concentration which exceeds the applicable RSR criteria. Elevated concentrations of PCBs were also detected in sediment samples. No RSR criteria exist for sediment. LEA states that the PCB contaminated soil was remediated by Fuss & O'Neill (F&O) in May 1995 along with beryllium contaminated soil. M&E did not review the 1995 F&O report.

- Approximately 550 cubic yards of contaminated soil, sediment and concrete were removed from three areas; a portion of a man-made settling pond; an area of an unnamed stream, and an area south and west of the former test building.
  - Post-remediation confirmatory soil samples detected beryllium at concentrations ranging from 0.234 mg/kg - 4.24 mg/kg. The RDEC for beryllium is 2 mg/kg. A target clean-up goal of 0.34 mg/kg was established for beryllium, but concentrations greater than 0.34 mg/kg were allowed to remain in place in three areas; a) soils below the pond following excavation of four feet of sediment; b) soils in other areas following excavation to below the water table; and, c) where beryllium was detected below 0.35 mg/kg. LEA reports that six soil samples beneath the upper four feet of pond sediment had beryllium concentrations above 2 mg/kg. All other confirmatory samples detected beryllium below the 2 mg/kg RDEC.
  - A 1996 LEA investigation identified soil polluted with TPH, VOCs and metals. LEA concluded a release may have occurred. A 1997 LEA investigation did not identify VOCs, PCBs or TPH in the soil (2-4 feet below grade). LEA concluded the degree and extent of contamination in this area were adequately characterized and no further investigations were warranted.
  - *Summary* - Soil contaminated with PCBs and beryllium has reportedly been remediated, however, contaminated and/or polluted soil remains. An ELUR is proposed.
7. Explosives Storage Area – Includes a chemical storage building, an explosives storage building, an outside chemical storage shed, an area of filling and a former fuel oil storage tank. COCs include VOCs, TPH and metals.
- Chemical Storage Building – In 1996, LEA performed a subsurface investigation in this area and detected chromium in the soil. LEA concluded that there was no evidence that a release had occurred. Several metals including nickel, zinc and barium were detected but reportedly at concentrations below the applicable RSR criteria. The metal arsenic was detected in the groundwater at concentrations which exceed the applicable RSR criteria (SWPC).
  - Explosives Storage Building – In 1996, LEA performed a subsurface investigation in this area and detected chromium in the soil. LEA concluded that there was no evidence that a release had occurred.
  - Outside Chemical Storage Shed – In 1996, LEA performed a subsurface investigation in this area and concluded that a release of the VOC methyl ethyl ketone (MEK) may have occurred, but all detected concentrations in soil and groundwater were below the applicable RSR criteria. The area was deemed adequately characterized.
  - Area of Filling - LEA states that no metals were detected above the applicable RSR criteria in the fill material (located at the northern sub-area boundary with X-430) and that the area has been adequately characterized.
  - Former Fuel Oil UST (located on west side of Explosive Storage Area) – LEA states that TPH was detected in the soil below the applicable RSR criteria suggesting a release has occurred. LEA concludes the area has been adequately characterized and that no further action is warranted.



- LEA conducted several investigations in the Explosive Storage Area. With the exception of the Outside Chemical Storage Shed and a former UST, LEA states that no releases have occurred in this area. LEA stated that an MEK release may have occurred at the Outside Chemical Storage Shed. No other information was available.
  - Summary - Polluted soil was identified; no RSR exceedances were detected in soil. Arsenic was detected in groundwater above RSR criteria.
8. Materials Experimental Research Laboratory (MERL) – Includes a suspected dry well and former Fire Training Area D.
- Fire Training Area D consisted of an open area with a water filled pit used for fire training. Combustible materials were used in the pit. No COCs were identified. Polluted soil was reportedly identified at concentrations below the applicable RSR criteria.
  - Suspected Dry Well – In 1997, LEA performed a subsurface investigation and concluded there was no evidence that a release had occurred.
  - Fire Training Area D – In 1996, LEA performed a subsurface investigation and concluded that there was no evidence that a release had occurred.
  - Metals, including cadmium were detected in the groundwater, but at concentrations which do not exceed the applicable RSR criteria (SWPC).
  - Summary – Polluted soil identified in area, but LEA concluded that there was no evidence of a release.
9. North Klondike Undeveloped Land Area, north of X-401 Sub-Area – Utilized for storage of materials, equipment and vehicles. COCs include VOCs, SVOCs, TPH, PCBs and metals.
- VOCs and SVOCs were detected in soil below the RSR criteria. TPH was detected in the soil above the RSR criteria (Residential and Industrial/Commercial Direct Exposure Criteria). Metals were detected in the soil, but at concentrations below the applicable RSR criteria. Traces of PCBs were detected in the soil.
  - Zinc was detected in the surface water, but at a concentration which is below the WQS aquatic life protection criteria
  - LEA indicated RSR exceedances and estimated that approximately 533 cubic yards of soil would require remediation. M&E did not review any reports describing remedial actions in this area.
  - LEA states that COCs in the North Klondike Area groundwater generally exceed the applicable RSR criteria for metals and PCE.
  - Summary – RSR exceedances identified in soil and groundwater. Soil remediation reportedly performed.

#### *Recommended Actions*

If potential Parking Area 5 is to be considered further, a comprehensive, up-to-date summary of all remedial activities for this area prepared by LEA would assist the evaluation. M&Es review of available information identified a number of AOCs within this parking area. Remediation was reportedly performed at several of these AOCs, but supporting documentation was not available

for review. ELURs are proposed for several of these AOCs. Additional environmental investigation and/or remediation may be necessary within this area.

### **Parking Area 6**

Pratt and Whitney storage and training areas located in the South Klondike area.

#### *Description*

Identified by the East Hartford Tax Assessor's Office as Map 34 (updated in 1997), Lot 125.

#### *Land Use*

The South Klondike area consists of approximately 130 acres of land, sub-divided into seven sub-areas, not all of which are completely within the boundaries of Parking Area 6. Buildings associated with the South Klondike Area were demolished by approximately 1993. Approximately 47-acres of undeveloped land to the south of the developed portions of this region does not appear to be within Parking Area 6 and is not addressed in this report.

#### *Areas of Environmental Concern*

A number of AOCs were identified within Parking Area 6.

1. Virgin Products Storage Area (VPSA) – Includes six storage areas (storage areas 1 through 6) utilized for storage of metal parts and containers/drums of unknown contents. COCs include solvents, jet fuels, hydraulic and lubricating oils, calibration fluids and cutting oils.
  - Exceedances of the RDEC and GBPMC were reported in this area for TPH up to 4 feet below ground surface (bgs) and/or tetrachloroethylene at depths up to 8 feet bgs. PCBs were reported in exceedance of the RDEC at depths up to 4 feet bgs in this area. No SVOCs were reported in soil samples collected in this area.
  - According to LEA (1994), a soil vapor extraction (SVE) system was installed and several episodes of soil excavation and treatment were performed throughout this area. A containment building was constructed in this area for dewatering and treatment of contaminated soils excavated within Storage Area 3. The containment building remained in operation until approximately 1998. Remediation in this area was completed as part of the Containment Building Project, in which approximately thirty batches of soil totaling approximately 8,000 tons were treated on-site. Approximately half of the treated soil was returned to the excavation and half was disposed of off-site.
  - In addition to the SVE system, approximately 15 cubic yards of contaminated soil was excavated from the VPSA area. LEA recommended performing post remediation groundwater monitoring and recording an ELUR in this area as well as in Storage Area 3. No reports were reviewed describing specific remedial activities in Storage Area 3.
  - According to investigations performed by LEA in 2000 and 2002, groundwater impacted with several VOCs (including benzene, trichloroethylene, tetrachloroethylene and vinyl chloride) exceeding the Residential Volatilization Criteria (R VC), Industrial/Commercial

Volatilization Criteria (I/C VC) and SWPC is present in the VPSA. LEA recommended implementing an ELUR to prohibit building construction in this area in order to address exceedances associated with the R VC and I/C VC. LEA also recommended that a remedial system would be required to prevent groundwater exceeding the SWPC from discharging to Pewter Pot Brook.

- *Summary* - Several investigations have been performed within this area, and RSR exceedances of VOCs, TPH and metals have been reported in soil and groundwater. Remediation was reportedly performed and an ELUR is proposed.
2. Quonset Hut and Drum Storage Area – Interior and exterior storage of drums containing various petroleum products and hazardous materials. COCs include VOCs, SVOCs and metals. PCE and/or trichloroethylene (TCE) were reported above the RDEC and/or GBPMC at depths up to 4 feet in this area.
- Approximately 798 cubic yards of soil were reportedly removed from this area as part of the Klondike Soil Removal Project. LEA indicated that post remediation groundwater monitoring should be performed and an ELUR should be recorded to address remaining impacted soils. No reports were reviewed describing specific remedial activities in this area.
  - *Summary* – RSR exceedances have been identified in soil. Remediation has reportedly been performed and an ELUR is proposed for this area.
3. Cryogenics Area – Contained two former test stands, USTs, ASTs and a former septic system and drywell. COCs in this area include VOCs, TPH, PCBs and metals.
- Exceedances of the RDEC and GBPMC were reported for TPH at 0-2 feet and the RDEC for PCBs at depths of 6-8 feet. Exceedances of the GBPMC were also reported for tetrachloroethylene at depths of 0.5 to 4 feet. SVOCs were also reported in this area.
  - A former septic tank and drywell were present in this area. The septic tank and drywell were removed as part of a Septic System Removal Project. LEA indicated that confirmation soil samples were collected in this area upon removal of these structures, and that based on laboratory results, “removal activities are complete”. LEA reported that for remaining impacted soils, an ELUR should be recorded in this area and that post remediation groundwater monitoring should be performed. No reports were reviewed describing specific remedial activities in this area.
  - LEA indicated that petroleum hydrocarbon contamination exists in the area of a former AST, and that this area had not been adequately characterized. A soil sample collected from 4 feet bgs exceeded the RDEC and the GBPMC. LEA recommended recording an ELUR for this area and concluded that “with the removals of soils exceeding the criteria included in the RSRs” as well as post-remediation groundwater monitoring, the area was adequately characterized and no further action was recommended.
  - Approximately 81 cubic yards of contaminated soil was reportedly removed from the former Cryogenics building and a former UST area as part of the Klondike Soil Removal Project, and it was indicated that post remediation soil samples were collected. LEA

recommended post remediation groundwater monitoring and recording an ELUR in this area to address remaining impacted soils. No reports were reviewed describing specific remedial activities in this area.

- *Summary* – RSR exceedances have been identified in soil. Remediation has reportedly been performed and an ELUR is proposed for this area.
4. Linde Gas Area – Former hydrogen gas plant used for the manufacture of hydrogen gas from natural gas. Includes a former chemical storage building, former USTs, a former septic system and former drum storage and dumpster areas. COCs include VOCs, TPH, PCBs and metals.
- Exceedances of the RDEC were reported for TPH at depths of 2 to 8 feet bgs. Additionally, TPH exceeded the GBPMC at depths between 6-8 feet. PCBs were reported which exceeded the RDEC up to depths of 4-6 feet bgs. SVOCs were also reported in this area. Exceedances of the SWPC and/or RVC were reported for several VOCs and metals in groundwater in this area.
  - Approximately 230 cubic yards of impacted soil was reportedly removed this area. LEA indicated that confirmatory samples were collected and that an ELUR should be recorded to address additional soils exceeding criteria. Other than additional post-remediation groundwater monitoring, this area was deemed “adequately characterized” and no additional action was recommended by LEA. No reports were reviewed describing specific remedial activities in this area.
  - A former septic tank was removed as part of a Septic System Removal Project. LEA indicated that confirmation samples were collected upon removal of the tank and that based on results, removal activities are complete. An ELUR was recommended to address remaining polluted soils in this area. No reports were reviewed describing specific remedial activities in this area.
  - VOCs were detected in soil and groundwater in this area, indicating that a release had occurred in the Linde Drum and Dumpster Storage Areas. LEA indicated that the “degree and extent of potential release has been adequately characterized”. With the exception of chromium, metals concentrations reported in this area were attributed to natural background conditions. LEA indicated that no further investigation or remediation was warranted in this area.
  - *Summary* – RSR exceedances have been identified in soil. Remediation has reportedly been performed and an ELUR is proposed for this area.
5. Firing Range Area – A firing mound with an earthen backstop approximately twenty feet high and 100 feet long. COCs in this area primarily include VOCs and metals. VOCs detected in soil samples include tetrachloroethylene and trichloroethylene. No SVOCs or PCBs were reported in soils in this area. Various metals have also been reported in this area. Information pertaining to remedial activities performed in this area (if any) was not reviewed. Information pertaining to current soil and groundwater conditions in this area is not available.

6. Tie Down Area – This area includes two engine testing areas (X-309 and B-24), a storage area and Fire Training Area A. Low levels of VOCs and PCBs were detected in soil. SVOCs, TPH and several metals were detected in the soil at concentrations which exceed the RDEC and/or the I/CDEC. Leachable lead in soil exceeds the GBPMC. A number of metals were detected in the groundwater at concentrations which exceed the SWPC. LEA estimated a total of approximately 170 cubic yards of contaminated soil were removed. LEA stated that an ELUR would be needed to satisfy the RSR criteria, but that the area had been adequately characterized.
7. Sub-Area X-307 – This area includes a septic system and a rubble pile. LEA stated that the septic tank was removed and that based on confirmatory sampling (post tank removal), there was no indication of a release.

Based on soil sampling of the debris pile, LEA stated that there was no evidence of a release, and the area had been adequately characterized. LEA also stated that metals detected in the soil at concentrations below the applicable RSR criteria are considered background.

#### *Recommended Actions*

If potential Parking Area 6 is to be considered further, a comprehensive, up-to-date summary of all remedial activities for this area prepared by LEA would assist the evaluation. M&E's review of available information identified a number of AOCs within this parking area. Remediation was reportedly performed at several of these AOCs, but supporting documentation was not available for review. ELURs are proposed for several of these AOCs. Additional environmental investigation and/or remediation may be necessary within this area.

#### **Parking Area 7**

Pratt and Whitney undeveloped, wooded land, located north of Parking Area 5.

#### *Description*

Identified by the East Hartford Tax Assessor's Office as Map 34 (updated in 1997), Lot 113.

#### *Land Use*

Historic aerial photographs suggest this area has remained wooded and undeveloped. The eastern portion of Parking Area 7 appears to encroach upon what appears to be farm land.

#### *Areas of Environmental Concern*

No specific documented AOCs were identified with respect to Parking Area 7. However, potential impacts associated with pesticides and herbicides from historic farming may exist.

### *Recommended Actions*

No reports or studies specific to the environmental conditions of this area were available for review. M&E's review of other available information did not reveal evidence of documented environmental concerns. However, if a more rigorous level of pre-construction screening is desired, then OPM may wish to consider a limited subsurface investigation in the proposed parking area prior to construction to characterize the environmental quality of any affected media. The depth to which soil (and potentially groundwater) sampling would occur would be contingent upon the depth of any proposed parking excavations (utilities, storm water drainage).

### **Conclusions**

In summary, no information reviewed suggests significant environmental concerns for Parking Areas 1, 3, 4 and 7. If a more rigorous level of pre-construction screening is desired, then OPM may wish to consider a limited subsurface investigation in each of these areas prior to construction. This investigation would evaluate the current environmental quality of the soil and groundwater prior to construction activities. This information would be helpful to assess the environmental liability relating to RSR compliance issues, establish special material handling requirements (if necessary) during construction, and evaluate the potential risks associated with anticipated exposure to contaminated soil and/or groundwater.

The information reviewed for Parking Area 2 suggests that environmental concerns were addressed and that contaminated soil was remediated. M&E did not review any remediation reports relating to this and therefore, it is unknown if any residual contamination remains. Additional information is required to clarify the present status of environmental concerns for this area.

The information reviewed for Parking Areas 5 and 6 indicates significant environmental concerns in both areas which in most cases have been addressed to some extent. Additional work is necessary to establish the degree and extent of contamination in these areas. ELURs have been proposed for portions of both of these areas. If these areas are to be considered further, a comprehensive, up-to-date summary of all remedial activities for these areas prepared by LEA would assist the evaluation. In addition, documentation for previous remedial activities should be compiled and reviewed. Additional investigation/remediation may be necessary for each area to further evaluate/address the soil and groundwater conditions prior to construction activities. Furthermore, the nature and status of the proposed ELURs must be determined and evaluated with respect to the proposed construction activities.



## STATEMENT OF LIMITATIONS

The data presented and the opinions expressed in this report are qualified as follows:

1. The sole purpose of the investigation and of this report is to assess the physical characteristics of the Site with respect to the presence or absence in the environment of oil or hazardous materials and substances as defined in the applicable state and federal environmental laws and regulations and to gather information regarding current and past environmental conditions at the Site.
2. Metcalf & Eddy, Inc. (M&E) derived the data in this report primarily from visual inspections, examination of records in the public domain, interviews with individuals with information about the Site, and a limited number of subsurface explorations made on the dates indicated. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.
3. In preparing this report, M&E has relied upon and presumed accurate certain information (or the absence thereof) about the Site and adjacent properties provided by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, M&E has not attempted to verify the accuracy or completeness of any such information.
4. The data reported and the findings, observations, and conclusions expressed in the report are limited by the Scope of Services, including the extent of subsurface exploration and other tests. The Scope of Services was defined by the requests of the Client, the time and budgetary constraints imposed by the Client, and the availability of access to the Site.
5. Because of the limitations stated above, the findings, observations, and conclusions expressed by M&E in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the Site with any federal, state, or local law or regulation. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported or findings, observations, and conclusions expressed in this report. Further, such data, findings, observations, and conclusions are based solely upon site conditions in existence at the time of investigation.
6. This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the Agreement and the provisions thereof.

## TABLES



**Table 1**  
**Rentschler Field Redevelopment Project**  
**Evaluation of Proposed Stadium Parking - Reports Reviewed**

Title	Prepared By	Date
<i>Compilation Document, Remediation of Former Test Stand X194</i>	Fuss & O'Neil	June 1995
<i>Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081</i>	LEA <sup>1</sup>	Not Dated <sup>2</sup>
<i>Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081</i>	LEA	Not Dated
<i>Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081, Volume I</i>	LEA	Not Dated
<i>Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081, Volume III</i>	LEA	Not Dated
<i>Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike, Pratt &amp; Whitney, East Hartford. Connecticut EPA ID No. CTD990672081, Volume VIII</i>	LEA	Not Dated
<i>Unit Specific Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081, Volume I</i>	LEA	April 1998
<i>Unit Specific Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford Connecticut EPA ID No. CTD990672081, Volume VII</i>	LEA	November 1998
<i>Unit Specific Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081, Volume VIII</i>	LEA	March 1999
<i>Unit Specific Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081, Volume IX</i>	LEA	August 1999
<i>Unit Specific Technical Memorandum, Draft Summary Site Investigation and Remediation Report, Airport /Klondike at Pratt &amp; Whitney East Hartford, Connecticut EPA ID No. CTD990672081, Volume X</i>	LEA	August 1999
<i>Rentschler Airport Groundwater Sampling, Pratt and Whitney, East Hartford, Connecticut (map only)</i>	LEA	August 1996
<i>Klondike Soil Removal Project Specifications, Pratt and Whitney, East Hartford, Connecticut</i>	LEA	March 1998
<i>Status Report South Klondike Storage Area 3, Soil Vapor Extraction System, Pratt and Whitney, East Hartford, Connecticut</i>	LEA	October 1994
<i>South Klondike Area Additional Groundwater Investigation Phase II, Pratt &amp; Whitney, East Hartford Connecticut</i>	LEA	August 2000

**Table 1**  
**Rentschler Field Redevelopment Project**  
**Evaluation of Proposed Stadium Parking - Reports Reviewed**

Title	Prepared By	Date
<i>Waste Analysis Plan for the Temporary Containment Building at the Airport/Klondike Area, Pratt &amp; Whitney, East Hartford, Connecticut. EPA ID No. CTD99067208I</i>	LEA	May 1997
<i>Operating Specifications, Containment Building Project, Pratt and Whitney, East Hartford, Connecticut</i>	LEA	April 1997
<i>South Klondike Area Additional Groundwater Investigation Phase II at Pratt &amp; Whitney Airport/Klondike Area, South Klondike Area, Pratt and Whitney, East Hartford, Connecticut</i>	LEA	February 2002
<i>Remedial Action Report, Two Areas in Press Parking Area the Stadium at Rentschler Field and Silver Lane, Pratt and Whitney, East Hartford, Connecticut</i>	Fuss & O'Neil	February 2002
<i>Application fir (sic) Land Excavation and Filling Permit for the Klondike Area, Pratt and Whitney, East Hartford, Connecticut</i>	LEA	January 1997
<i>Defense Environmental Restoration Program for Formerly Used Defense Sites – Ordnance and Explosives Archives Search Report Findings, East Hartford, Connecticut</i>	U.S. Army Corps of Engineers	September 1999
<i>Report, Soil and Ground Water Characterization, Rentschler Field, East Hartford, Connecticut</i>	Marin Environmental, Inc.	June 2000
<i>Summary Information, North Parcel Area of the Airport/Klondike Areas at Pratt &amp; Whitney, East Hartford, Connecticut (no drawings)</i>	LEA	Not Dated
<i>Focused Human Health Risk Assessment, Fire Training Area B, Airport/Klondike Area, Pratt &amp; Whitney, East Hartford, Connecticut</i>	Gradient Corporation	June 2002
<i>Work Plan Soil and Ground Water Characterization; Rentschler Field, East Hartford, CT</i>	Marin Environmental, Inc.	May 2000
<i>Soil Remediation Scope of Study Three Areas in North Klondike of Former Pratt &amp; Whitney Rentschler Field, East Hartford, CT</i>	Fuss & O'Neil	Oct 2001

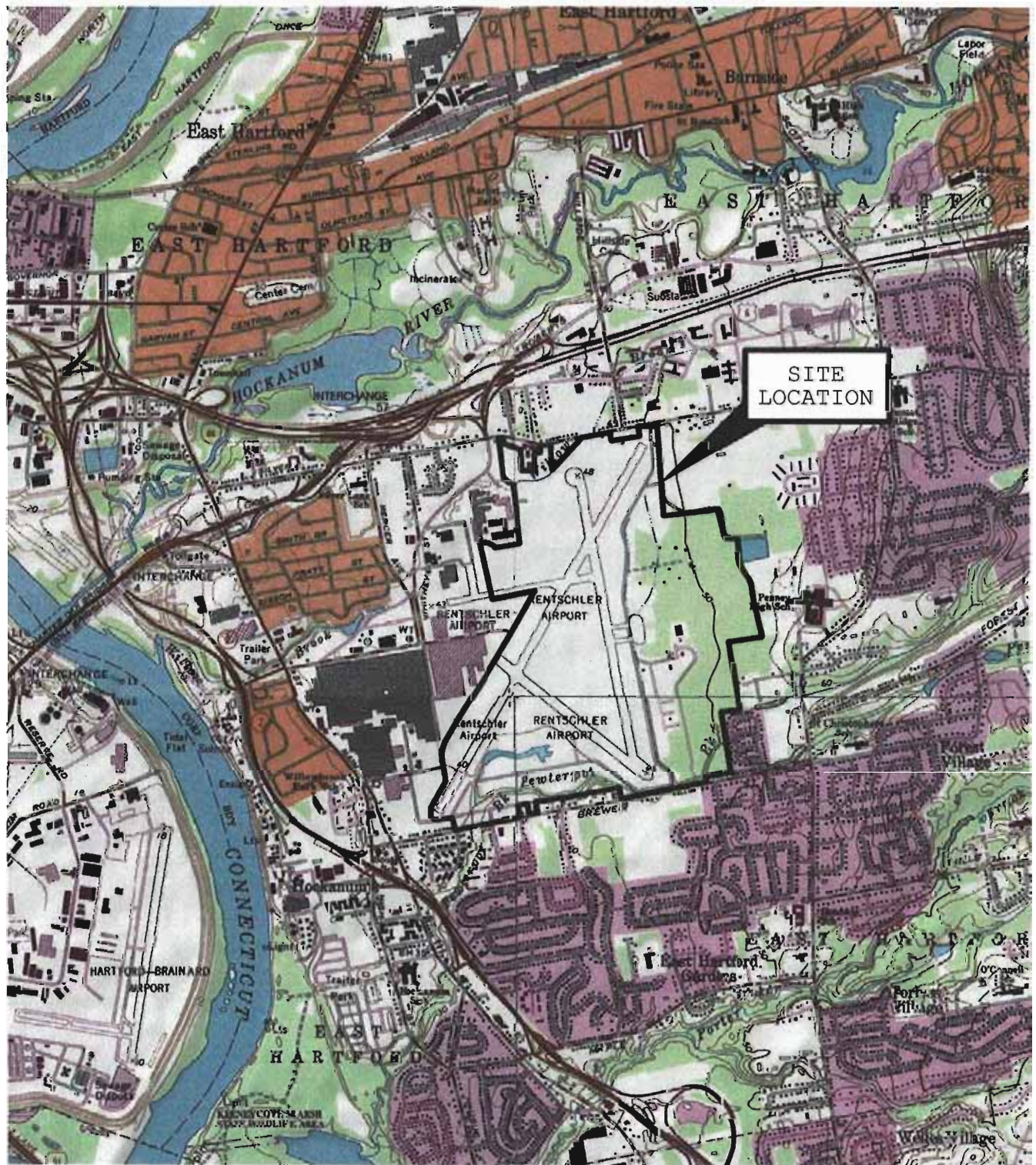
**Notes:**

<sup>1</sup>LEA - Loureiro Engineering Associates, Inc.

<sup>2</sup>No date was listed on several of the LEA documents; however, most data contained in these documents was collected during the middle to late 1990s (circa 1997-1999).

## FIGURES





SOURCE:  
U.S.G.S. TOPOGRAPHIC MAPS  
HARTFORD NORTH, CT QUADRANGLE 1992  
MANCHESTER, CT QUADRANGLE 1992  
HARTFORD SOUTH, CT QUADRANGLE 1992  
GLASTONBURY, CT QUADRANGLE 1992



**METCALF & EDDY | AECOM**

**FIGURE 1**  
**SITE LOCATION MAP**  
RENTSCHLER FIELD  
ENVIRONMENTAL SITE ASSESSMENT  
EAST HARTFORD, CONNECTICUT

DATE: JULY 2006





LEGEND:

- POSSIBLE STADIUM PARKING AREA WITH OVL
- APPROXIMATE LIMITS OF RECOGNIZED ENVIRONMENTAL CONDITION (AR) (PHASE 1 ENVIRONMENTAL SITE ASSESSMENT)
- ELUV REFERENCED IN TOWN AND STATE RECORDS
- PROPOSED ENVIRONMENTAL LAND USE RESTRICTION (P) (PHASE 1 ENVIRONMENTAL SITE ASSESSMENT)
- GENERAL AREA OF RECOGNIZED ENVIRONMENTAL CONDITION (P) (PHASE 1 ENVIRONMENTAL SITE ASSESSMENT)
- PHASE 1 SITE BOUNDARY
- UTC PROPERTY BOUNDARY
- STATE PROPERTY BOUNDARY

NOTES:

1. BASE MAP PROVIDED BY BAYSTATE ENVIRONMENTAL
2. ALL INFO APPROXIMATED BASED ON INFORMATION PROVIDED BY FUS & O'NEILL AND LOUISER ENGINEERING ASSOCIATES (LEA)
3. PROPOSED ELUV AREAS OBTAINED FROM FUS & O'NEILL MAP ENTITLED "EXISTING CONDITIONS PLAN" DATED MARCH, 2006.

NUMBER	DATE	MADE BY	CHECKED	REVISION	DESCRIPTION

METCALF & EDDY | AECOM

DESIGNED BY:  
DRAWN BY: M. THREDEAU  
CHECKED BY: S.P. / D.W.  
PROJECT ENGINEER:

SCALE:  
1" = 500' SCALE  
0 500 1000 1500  
FEET

NOTES: FIELD  
ENVIRONMENTAL SITE ASSESSMENT - STADIUM PARKING  
EAST HARTFORD, CT  
FIGURE 2  
SUMMARY OF FINDINGS

JOB: 60011512  
FILE NO.:  
CAD FILE: C2RND02  
SHEET:

JULY 2006